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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,205	11/09/2001	Joe Freeman Britt JR.	04676.P012	5511

7590 12/23/2003

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EXAMINER	
INOA, MIDYS	

ART UNIT	PAPER NUMBER
2188	

DATE MAILED: 12/23/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/053,205	BRITT, JOE FREEMAN	
	Examiner	Art Unit	
	Midys Inoa	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on June 28, 2002 has been considered by the examiner.

Drawings

2. The drawings received on November 9th, 2001 have been accepted by the examiner.

Claim Objections

3. Claim 10 is objected to because of the following informalities: On line 1 of claim 10, there appears to be a word missing in the phrase "control over stored on a data processing device". Appropriate correction is required.

4. Claims 28, 29, 31, 32, and 33 are objected to because of the following informalities: these claims are System Claims depending from Claim 19, which is a Method Claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1- 4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Computer Networks, by Larry L. Peterson and Bruce S. Davie (Peterson et al.).

Regarding Claim 1, Peterson et al. teaches splitting data into packets ("one or more blocks") and assigning each packet an individual header containing a number of fields of which one field is an offset field (see Figure 4.3) indicating the location of this particular data packet within the entire data stream. Peterson discloses using packets in the transmission of data through a network where the receiving end is usually a computer system, which stores the received data, including the headers, in a non-volatile memory such as a disk (Chapter 4, pages 251-253).

Regarding Claim 2, Peterson et al. teaches using the offset field within the header of each packet to determine the order of the packet within the entire data stream in order to be able to reassemble the data stream at the receiving end of the network. The reconstructed code can then be processed by the receiving system in response to a request from a related application (Chapter 4, pages 253-256 and Figure 4.5).

Regarding Claim 3, Peterson et al. teaches headers including a checksum field ("error detection"), which is used to determine the validity of each transmitted packet (Chapter 4, page 253).

Regarding Claim 4, Peterson et al. teaches using CRC instead of a checksum as an error detection method, which computes over the bytes composing a packet and then appends to the packet by the network hardware. The CRC provides stronger error detection than a checksum (Glossary, page 678 and Chapter 2, pages 92-101).

Regarding Claims 6 and 7, Peterson et al. teaches a cryptography algorithm where a public key is used to encrypt a message that is to be transmitted, and a private key is used to decrypt the message once it has been transmitted. In this algorithm, the verification of the public

key through the use of a private key is analogous to the verification of a signature (Chapter 8, pages 570-572 and Chapter 8, page 588).

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 19-20, 22, 26 and 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Landau (US 6,549,980).

Regarding Claims 19, 22, and 26, Landau teaches a computer system in which a collection of differences ("modifications") and the exacting locations and contents of related blocks ("program code map") that are different in the target disks from that in the reference disk are kept in a difference file (Column 3, lines 9-20). The difference file ("program code map") is used to apply the differences to each block in the target disk ("facilitates modifications", Column 3, lines 50-57).

Regarding Claim 20, Landau teaches calculating a collection of differences ("program code patches") through the execution of a difference comparison between the target disk and the reference disk (Column 3, lines 9-20) and applying the collection of differences to each block of the target disk ("transmitting said program code patch", Column 3, lines 50-57).

Regarding Claims 28 and 29, Landau teaches storing exacting locations of the blocks related to each calculated difference ("program patch"). Since the difference file being kept by

the system for the purpose of applying updates to the target disk contains information about more than one update or difference at a time, it is understood that it contains storage locations data about one or more memory blocks (Column 3, lines 9-20).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 5, 8-18, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Computer Networks, by Larry L. Peterson and Bruce S. Davie (Peterson et al.) in view of Landau (US 6,549,980).

Regarding Claim 5, Peterson et al. teaches the invention as set forth by Claim 1 above. Peterson et al. does not teach upgrading or modifying the data that has already been transmitted and stored by replacing specified packets. Landau teaches calculating differences between data on the target disk and the reference disk, determining the exacting locations of the related blocks to each difference, and applying each difference ("modification" or "update") to each corresponding block within the target disk ("upgrading program code" or "modifying a portion of said program code", Column 3, lines 9-20 and 50-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the updating capabilities of the system of Landau to the system of Peterson et al. since such capabilities would allow the system to apply updates to the data that has already been transferred without having the re-

transmit the entire data stream. Adding these capabilities to the system of Peterson et al. would allow the system to perform updates at a faster rate since less data needs to be transmitted.

Regarding Claims 10-14, Peterson et al. teaches the transmission of data through a network in which the data is divided into packets ("blocks") and each packet contains headers with offset information indication the location of each packet within the data stream ("indication blocks in the processing device into which each application is to be stored"). Peterson et al. does not teach maintaining a list of data transactions on the processing device and using such list to construct a map of all applications stored on the processing device. Landau teaches a computer system in which a collection of differences ("modifications") and the exacting locations and contents of related blocks ("program code map") that are different in the target disks from that in the reference disk are kept in a difference file (Column 3, lines 9-20). The difference file ("program code map") is used to apply the differences to each block in the target disk ("facilitates modifications", Column 3, lines 50-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the updating capabilities of the system of Landau to the system of Peterson et al. since such capabilities would allow the system to apply updates to the data that has already been transferred without having the re-transmit the entire data stream. Adding these capabilities to the system of Peterson et al. would allow the system to perform updates at a faster rate since less data needs to be transmitted. It is understood that in order to benefit from the updating capabilities of the system of Landau et al., the system would have to create the difference file prior having any further interaction with the target disk, whether the interactions are new transactions or for the application of updates, creating the difference file prior would prevent the reapplication of updates that were applied

prior to the difference file ("generating map... prior to new transactions with data processing device").

Regarding Claim 15, Peterson et al. teaches using the offset field within the header of each packet to determine the order of the packet within the entire data stream in order to be able to reassemble the data stream at the receiving end of the network (Chapter 4, pages 253-256 and Figure 4.5).

Regarding Claims 16 and 24, Landau teaches loading the blocks of data from the target disk onto a master image ("volatile memory"), determining which data needs to be modified in the target disk by performing a difference comparison between partitions of the target disk and the master image, and repairing the image of the disk by writing the known differences over parts of the master image ("overwriting...said program code with said program code patch") thus creating a difference file (Column 4, lines 7-17 and Column 3, lines 9-21). Landau does not teach identifying each portion of the program code with an offset. Peterson et al. teaches using the offset field within the header of each packet to determine the order of the packet within the entire data stream in order to be able to reassemble the data stream at the receiving end of the network (Chapter 4, pages 253-256 and Figure 4.5). It is understood that upon combining the inventions of Peterson et al. with that of Landau, the combined invention would also use the offset fields to identify the location of portions of program code.

Regarding Claim 8, Peterson et al. teaches the invention as set forth by Claim 1 above. Peterson et al. also teaches using the offset field within the header of each packet to determine the order of the packet within the entire data stream in order to be able to reassemble the data stream at the receiving end of the network (Chapter 4, pages 253-256 and Figure 4.5). Peterson

et al. does not teach upgrading or modifying the data that has already been transmitted and stored by replacing specified packets. Landau teaches calculating differences between data on the target disk and the reference disk, determining the exacting locations of the related blocks to each difference, and applying each difference ("modification" or "update") to each corresponding block within the target disk ("upgrading program code" or "modifying a portion of said program code", Column 3, lines 9-20 and 50-57). Furthermore, Landau teaches loading the blocks of data from the target disk onto a master image ("volatile memory"), determining which data needs to be modified in the target disk by performing a difference comparison between partitions of the target disk and the master image, and repairing the image of the disk by writing the known differences over parts of the master image ("overwriting...said program code with said program code patch") thus creating a difference file (Column 4, lines 7-17 and Column 3, lines 9-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the updating capabilities of the system of Landau to the system of Peterson et al. since such capabilities would allow the system to apply updates to the data that has already been transferred without having the re-transmit the entire data stream. Adding these capabilities to the system of Peterson et al. would allow the system to perform updates at a faster rate since less data needs to be transmitted. It is understood that upon combining the inventions of Peterson et al. with that of Landau, the combined invention would also use the offset fields to identify the location of portions of program code.

Regarding Claims 9 and 17, Peterson et al. teaches headers including a checksum field ("error detection"), which is used to determine the validity of each transmitted packet (Chapter 4, page 253). It is understood that upon the transmission of update packets through Peterson's

system, the checksum element would remain active and thus the validity of the update would be confirmed.

Regarding Claim 18, it is understood that upon the transmission of update packets though Peterson's system, the offset field within the header would be used for locating the portion that such update belongs to. In addition, in applying the patches or updates to the stored data ("storing blocks of program code containing program code patch to non-volatile memory"), it is understood that the existing data must be replaced with the calculated difference ("patch").

Regarding Claim 24, Landau teaches calculating a collection of differences ("updates"), which are to be used for updating the target disk and creating a difference file with the location of where the differences are to be applied (Column 3, lines 9-20). In applying the patches or updates to the stored data, it is understood that the existing data must be replaced with the calculated difference or patch ("combining said block"). In addition, Peterson et al. teaches headers including a checksum field ("error detection"), which is used to determine the validity of each transmitted packet (Chapter 4, page 253). It is understood that upon the transmission of update packets through Peterson's system, the checksum element would remain active and thus the validity of the update would be confirmed.

Regarding Claim 25, Peterson et al. teaches using CRC instead of a checksum as an error detection method, which computes over the bytes composing a packet and then appends to the packet by the network hardware. The CRC provides stronger error detection than a checksum (Glossary, page 678 and Chapter 2, pages 92-101).

Regarding Claim 23, Peterson et al. does not teach the use of Flash memory as the non-volatile memory in the receiving end of the transmitting network. It would have been obvious to

one of ordinary skill in the art at the time the invention was made to replace the ordinary disk in a receiving system for a Flash memory since it is very portable and thus, would be versatile if the receiving system is a portable computer or another portable device.

11. Claims 21, 27 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landau (US 6,549,980) in view of Computer Networks, by Larry L. Peterson and Bruce S. Davie (Peterson et al.).

Regarding Claims 21 and 27, Landau teaches the invention as set forth by Claim 20 above. Landau does not teach designating the location of a difference through the use of an offset in memory. Peterson et al. teaches dividing data into packets for transmission and each packet having a header including offset information, which designates the location of the packet within the data stream. It would have been obvious to one of ordinary skill in the art at time the invention was made to modify the system of Landau et al. to identify the location of each difference with an offset since such method allows for the location information to dependent upon the base address of the data stream. Therefore, if the data stream were to change its base address, the difference, which is being located through the use of an offset, would still be located in the correct place.

Regarding Claim 30, Landau teaches the invention as set forth by Claim 26 above. Landau does not teach using a wireless network for the transferring of program code. Peterson et al. teaches the use of a network for transferring files. It would have been obvious to one of ordinary skill in the art to modify the system of Landau to operate in the network environment of Peterson et al. since such modification would allow for updates to be transmitted from remote

locations. It is understood that the network of Peterson et al. may be a wireless network since the protocols being disclosed by Peterson also apply in a wireless environment.

Regarding Claims 31-32, Landau teaches the invention as set forth by Claim 28 and 29 above. Landau does not teach using a CRC value to determine the validity of data. Peterson et al. teaches divind data for transmission into packets having headers including a checksum field for error detection, which is used to determine the validity of each transmitted packet (Chapter 4, page 253). In addition, Peterson et al. teaches using CRC value instead of a checksum as an error detection method, which computes over the bytes composing a packet and then appends to the packet by the network hardware. The CRC provides stronger error detection than a checksum (Glossary, page 678 and Chapter 2, pages 92-101). It would have been obvious to one of ordinary skill in the art at the time the invention was made to equip the system of Landau with the error detection capabilities of Peterson et al. since such abilities would allow the system to prevent the storage of invalid data. It is understood that upon the transmission of update packets through Peterson's system, the error detection element would remain active and thus the validity of the update would be confirmed. In Peterson's system, all data transmitted is formatted into packets with headers, and thus, the CRC code would be present even if the transmission is only an update transmission.

Regarding Claim 33, Landau teaches the invention as set forth by Claim 29 above. Landau does not teach updating an application signature usable to authenticate an application upgraded by a patch. Peterson et al. teaches a cryptography algorithm where a public key is used to encrypt a message that is to be transmitted, and a private key is used to decrypt the message once it has been transmitted. In this authentication algorithm, the verification of the public key

through the use of a private key is analogous to the verification of a signature (Chapter 8, pages 570-572 and Chapter 8, page 588). It would have been obvious to one of ordinary skill in the art at the time the invention was made to revise the system of Landau by adding the authenticating abilities of Peterson et al. since such authentication would allow for this system to accept updates from difference sources and thus, authenticate the sources prior to applying the changes.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- West et al. (US 6,434,683), Method and System for Transferring Delta Difference Data to a Storage Device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Midys Inoa whose telephone number is (703) 305-7850. The examiner can normally be reached on M-F 7:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Midys Inoa
Examiner
Art Unit 2188

MI

12/15/03

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SUPERVISORY PATENT EXAMINER
TC 2100